

$$1. 3 + x = 41 \quad 41 - 3 = x$$

you get x alone so
we can solve for x

solution 38

$$\begin{array}{r} 3 + x = 41 \\ \underline{-3} \quad \triangle \end{array} \quad \text{balanced equation}$$

$$-3 + 3 + x = 41 + (-3)$$

$$x = 38 \quad \text{equivalent } \underline{38}$$

$$2. \cancel{12} + x - \cancel{12} = 53 + 12$$

$$x = 65$$

$$\begin{array}{r} x - 12 = 53 \\ \underline{+12} \quad +12 \end{array}$$

$$x = 65 \quad \underline{65}$$

Check

$$(65) - 12 = 53$$

$$53 = 53 \checkmark$$

$$3. \left(\frac{1}{4}\right) 4x = 15 \left(\frac{1}{4}\right)$$

$$x = \frac{15}{4} = \underline{3\frac{3}{4}}$$

$$\begin{array}{r} 4x = 15 \\ \div 4 \quad \div 4 \\ \hline 4x = 15 \\ \div 4 \end{array}$$

$$\begin{array}{r} 4x = 15 \\ \underline{\div 4} \quad \div 4 \end{array}$$

$$x = 3\frac{3}{4}$$

$$\underline{3\frac{3}{4}}$$

$$4. \left(\frac{3}{2}\right) \frac{2}{3} x = 42 \left(\frac{3}{2}\right)$$

$$x = 63$$

$$\underline{63}$$

$$\begin{array}{r} \frac{2}{3} x = 42 \\ \underline{\div \frac{2}{3}} \end{array}$$

$$\begin{array}{r} 14 \\ \times 14 \\ \hline \end{array}$$

$$5. \begin{array}{r} 5x + 12 = -51 \\ \underline{-12} \quad -12 \end{array}$$

$$\begin{array}{r} 5x = -63 \\ \underline{\div 5} \end{array}$$

$$\underline{-12\frac{3}{5}}$$

2 step problems

1. Get all x 's together and all numbers together.
2. Get x by itself

$$\begin{array}{r} 5x + 12 = 53 \\ \underline{-12} \end{array}$$

$$\begin{array}{r} 5x + 12 = 53 \\ \underline{-12} \end{array}$$

$$x + \frac{12}{5}$$

6.
$$\begin{array}{r} -\frac{2}{3}x - \cancel{8} = 16 \\ +\cancel{8} + 8 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{\left(-\frac{3}{2}\right)} \cdot \frac{2}{3}x = 24 \cdot \cancel{\left(-\frac{3}{2}\right)} \\ \hline \end{array}$$

$$x = -36 \quad \text{(-36)}$$

7.
$$5x - 3 + 2 = 71$$

$$\begin{array}{r} 5x - 1 = 71 \\ +1 +1 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{5}x = \frac{72}{\cancel{5}} \\ \hline \end{array}$$

$$x = 14\frac{2}{5} \quad \text{(14}\frac{2}{5}\text{)}$$